REMARKS

It is noted that independent claims 4, 5, and 12 are allowable, as previously indicated by the Examiner.

In the Examiner's Answer dated April 1, 2008, the Examiner issued a new ground of rejection: claims 8-20 being rejected under 35 U.S.C. § 101 as purportedly being directed to non-statutory subject matter. 4/1/2008 Examiner's Answer at 3.

The following is the remaining rejection previously raised: claims 1-3, 8-11, and 15-20 rejected under 35 U.S.C. § 103 over U.S. Patent No. 5,713,020 (Reiter) in view of admitted prior art ("APA").

Pursuant to 37 C.F.R. § 41.39(b), since the Examiner's Answer contains a rejection designated as a new ground of rejection, Appellant hereby **REQUESTS THAT PROSECUTION BE REOPENED** based on the filing of this Reply under § 1.111.

Claims 8, 12, and 15 have been amended to address the § 101 rejection. It appears that the Examiner is concerned regarding the reference to "carrier waves" made in ¶ [0048] of the present application. By reciting that the "storage medium" of claims 8 and 12 is "machine-readable" which finds support in ¶ [0047] of the present application, and by reciting the "storage" of claim 15 as being "machine-readable," it is respectfully submitted that the § 101 rejection has been overcome. Withdrawal of the § 101 rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

Independent claim 1 was rejected as being obvious over Reiter and APA. It is respectfully submitted that the obviousness rejection is defective.

The objective teachings of the references cited by the Examiner clearly indicate that the claimed subject matter is non-obvious. To make a determination under 35 U.S.C. § 103, several basic factual inquiries must be performed. *See Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459 (1965). Two of the basic factual inquires include: (1) determining the scope and content of the prior art; and (2) ascertaining the differences between the prior art and the claims at issue. *Id.*

The following describes the teachings of the cited prior art, Reiter and APA, and how they differ from the claimed subject matter. Claim 1 recites a method executable by at least one processor in a database system that comprises:

- receiving, by the at least one processor, a query that specifies an aggregate on *distinct values* of at least one attribute, the query further specifying grouping on plural grouping sets, the plural grouping sets having at least a first grouping set and a second grouping set;

- identifying, by the at least one processor, *distinct values* of the at least one attribute and storing the *distinct values* of the at least one attribute in a first table;

- computing, by the at least one processor, aggregates for groups specified by the first grouping set using the first table; and

- computing, by the at least one processor, aggregates for groups specified by the second grouping set using the first table.

The Examiner cited column 4, lines 34-37, of Reiter as disclosing a query that specifies an aggregate on *distinct values* of at least one attribute. 4/1/2008 Examiner's Answer at 6. Column 4 refers to a multiple-level aggregation query, such as in the form of Table 1, which includes a GROUP BY clause that specifies a level number. Column 5 of Reiter shows an example query (*see* Table 2 in column 5 of Reiter). In this example query, several aggregations are specified, all of which pertain to the SUM() aggregation. The aggregation is performed on the Order Amount attribute, with absolutely *no* indication that the SUM is performed on *distinct* values of the Order Amount attribute. Therefore, contrary to the assertion by the Examiner, it is

clear that Reiter does not teach or hint at receiving a query that specifies an aggregate on distinct values of at least one attribute.

In fact, the query in column 5 of Reiter sums *all* attribute values, not just *distinct* values. For example, as stated in column 5, at lines 24-25, of Reiter: "the query contains a sum of order amounts for *all* of the rows in the source table." In column 2, in connection with the discussion of an aggregate function that can be contained in a SQL query, Reiter states that the aggregating function "performs some operation on the values of *all* of the fields in that column from the rows of the source table ...." Reiter, 2:24-27. Thus, it is clear that the queries referred to in Reiter are queries that aggregate all values of at least one attribute, not *distinct* values of at least one attribute, to form groups.

This fundamental difference between the teachings of Reiter and the subject matter recited in claim 1 strongly indicates that the hypothetical combination of Reiter and APA clearly does not teach or hint at elements of claim 1.

In fact, there clearly did not exist any reason to combine the teachings of Reiter and APA to achieve the claimed invention. As noted by a recent U.S. Supreme Court case, it is important to identify a reason that would have prompted a person of ordinary skill in the art to combine the teachings of the cited references to achieve the claimed invention. *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007). In fact, as objective evidence that no reason existed to combine Reiter and APA, the APA actually teaches away from the invention. The Examiner conceded that Reiter fails to disclose storing distinct values of the at least one attribute (specified in the query) in a first table. 4/1/2008 Examiner's Answer at 6. Instead, the Examiner relied upon APA, and specifically, to page 3, ¶ [0006], line 1 of the APA (the Background section of the present application). The APA, in ¶ [0007], provides an explicit teaching that the approach described in ¶¶ [0005] and [0006] of APA "cannot be used if the SQL statement specifies that an aggregate be calculated on distinct values of a particular attribute ...." Thus, the APA expressly taught away from using the technique in ¶ [0006] of APA in the context of what is recited in claim 1, namely in the context of a query that specifies an aggregate on distinct values of at least one attribute. Thus, the APA provides objective evidence that there existed no reason for a person of ordinary skill in the art to combine the teachings of Reiter and APA in the manner proposed by the Examiner.

In response to Applicant's arguments, the Examiner argued that claims are to be given "the broadest reasonable interpretation consistent with the specification ...." 4/1/2008 Examiner's Answer at 18. This statement does not address the issue of Applicant's argument that no reason existed to combine Reiter and APA in view of the teaching away by APA. As stated by the M.P.E.P., "[a] prior art reference must be considered in its entirety, *i.e.*, as a <u>whole</u>, including portions that would lead away from the claimed invention." M.P.E.P. § 2141.02 (8th ed., Rev. 6), at 2100-126. In fact, "[i]t is improper to combine references where the references teach away from their combination." M.P.E.P. § 2145, at 2100-167-168; *see also United States v. Adams*, 383 U.S. 39, 51-52 (1966) (holding that prior art would not render obvious claimed subject matter if the prior art taught away from the claimed invention). Thus, in view of the foregoing, there existed no reason for a person of ordinary skill in the art to combine the teachings of Reiter and APA in the manner proposed by the Examiner.

Therefore, it is respectfully submitted that independent claim 1 and its dependent claims are non-obvious over Reiter and APA.

Independent claims 8 and 15 are allowable over Reiter and APA for similar reasons as claim 1. Dependent claims are allowable for at least the same reasons as corresponding independent claims.

Moreover, claim 3 recites that identifying the distinct values of the at least one attribute comprises computing a group-by operation on the first grouping set and selecting the attributes of the first grouping set for output. The Examiner cited Table 2 in column 5 of Reiter, and specifically, lines 6 and 7 of Table 2, as disclosing this feature of claim 3. 4/1/2008 Examiner's Answer at 7. The SQL query of Table 2 clearly does not disclose a query to identify *distinct values* by computing a group-by operation in the manner recited in claim 3. In fact, the SELECT clauses at lines 2 and 3 of Table 2, which correspond to the group-by clauses at lines 6 and 7 of Table 2, perform the SUM aggregation on the Order Amount attribute. Therefore, the result of the operation of Table 2 is that an aggregation (sum) is provided, not distinct values of the attribute, as recited in claim 3.

For the foregoing reasons, claim 3 is further allowable over the cited references.

Claims 10 and its dependent claim 11 are allowable for similar reasons as claim 3.

Allowance of all claims is respectfully requested. The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 14-0225 (11087).

Respectfully submitted,

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